

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 36

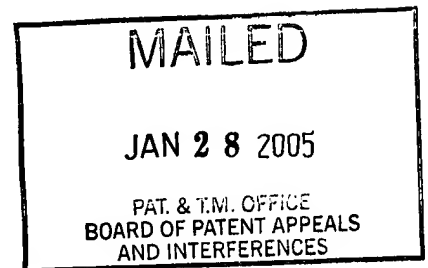
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte WILLIAM S. DALTON, ERIC SULDA,  
PATRICK S. DALTON, and WILLIAM G. CATLOW

Appeal No. 2004-1925  
Application No. 09/543,951

HEARD: JANUARY 12, 2005



Before COHEN, NASE, and BAHR, Administrative Patent Judges.  
COHEN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 9, all of the claims in the application.

Appellants' invention pertains to a retractable packing segment for an apparatus that extracts work from the expansion of a gaseous working fluid and to a retractable brush seal for an apparatus that extracts work from the expansion of a gaseous working fluid. A basic understanding of the invention can be derived from a reading of exemplary claims 1 and 6, a copy of

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which appears in the APPENDIX OF CLAIMS ON APPEAL found on page 12 of the main brief (Paper No. 22).

As evidence of obviousness, the examiner has applied the documents listed below:

Brandon et al (Brandon)	5,810,365	Sep. 22, 1998
Bagepalli et al (Bagepalli)	6,030,175	Feb. 29, 2000

The following rejection is before us for review.

Claims 1 through 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Brandon in view of Bagepalli.

The full text of the examiner's rejection and response to the argument presented by appellants appears in the answer (Paper No. 23), while the complete statement of appellants' argument can be found in the main and reply briefs (Paper Nos. 22 and 24).

In the main brief (page 3), appellants specify that claims 1 and 6 stand apart, which we take to denote that they do not stand or fall together. Consistent with appellants' above statement and the arguments presented on appeal, our focus, infra, will be

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upon each of independent claims 1 and 6, with the remaining depending claims standing or falling with their respective independent claims.

#### OPINION

In reaching our conclusion on the issues raised in this appeal, this panel of the Board has carefully considered appellants' specification and claims 1 and 6, the applied teachings,<sup>1</sup> the declaration of Erik Sulda executed October 29, 2002 (a co-inventor in the present application), the declaration of Richard Shifler executed December 4, 2000, and the respective viewpoints of appellants and the examiner. As a consequence of our review, we make the determinations which follow.

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<sup>1</sup> In our evaluation of the applied prior art, we have considered all of the disclosure of each document for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the Board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

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We sustain the examiner's obviousness rejection of appellants' claims.

Independent claims 1 and 6 include a retractable packing segment and a retractable brush seal, respectively, having at least one brush seal having opposing side ends (claim 1) or at least one of opposing side ends (claim 6) cut non-parallel with radii of an axis defined by a shaft.

The examiner is of the view that the combined teachings of Brandon and Bagepalli would have been suggestive of the claimed subject matter to one having ordinary skill in the art when the present invention was made. Appellants argue to the contrary in their main and reply briefs, relying upon the respective statements of declarant Sulda and declarant Shifler.

As further delineated below, from a collective assessment of the evidence of obviousness (the Brandon and Bagepalli references) and the evidence of nonobviousness (the declarations of Sulda and Shifler), we reach the conclusion that the evidence of obviousness outweighs the little weight that can be attributed to appellants' proffered evidence of nonobviousness.

Based upon the knowledge and level of skill in the art, at the time of appellants' invention, it is our opinion that it would have been obvious to one having ordinary skill to provide the retractable (labyrinth) seal ring of Brandon (Fig. 1) with a brush seal segment. As we see it, the incentive on the part of one having ordinary skill in the art for effecting this modification would have simply been to gain the expected and recognized benefit of an added brush seal; the addition of a brush seal being known in the art as revealed by the teaching of the hybrid seal segment by Bagepalli (labyrinth seal plus brush seal). In light of our assessment, infra, relative to the evidence of nonobviousness, the above evidence of obviousness considered with the declaration evidence does not lead to other than a conclusion of obviousness relative to the claims on appeal. It follows that the rejection of independent claims 1 and 6 is sound, and the rejection of dependent claims is also well founded since these latter claims respectively stand or fall with claims 1 and 6, as earlier indicated.

The declarations of Sulda and Shifler were executed October 29, 2002 and December 4, 2000, respectively. Declarant Sulda discusses perceived problems with combining the applied reference

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teachings and states (page 3) that "[t]he only prior art device or publication of which I am aware that discloses or incorporates a brush seal element as a part of the seal member of a retractable seal is U.S. Patent No. 6,318,728 to Addis."

Declarant Shifler (paragraphs 24 and 33) indicates that it was not obvious (prior to the Addis application<sup>2</sup>) that a combination of labyrinth and brush seals would work, and indicates that the combination of a brush element with a retractable seal was not known in the prior art.<sup>3</sup>

Both of the declarants reveal themselves to be skilled in the art at issue, but do not specify, in their respective declarations, knowledge of an earlier patent to Skinner (U.S. Patent No. 5,749,584 issued May 12, 1998). This patent discloses (column 6, line 51 to column 7, line 5) the knowledge and skill of those practicing the art before us, prior to appellants' invention, for retrofitting a brush seal to a radially movable

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<sup>2</sup> The referenced Addis application matured into U.S. Patent No. 6,318,728 issued Nov. 20, 2001; the application had a filing date of Nov. 24, 1998 and the face of the patent indicates that it is a division of Serial No. 08/891,526, filed Jul. 11, 1997.

<sup>3</sup> During any further prosecution, the examiner should ascertain the status of the patent to Addis vis-a-vis the present application, i.e., determine whether the Addis patent is prior art to appellants or the basis for a double-patenting rejection.

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labyrinth seal (Fig. 9). Since declarants did not take into account the existing knowledge in the art of retrofitting a brush seal to a radially movable labyrinth seal, their respective views do not accurately evidence the knowledge and level of skill in the art when the present invention was made.

As to the declaration of Sulda, in particular, the failure to acknowledge the Skinner patent is troublesome since declarant, a co-inventor in the present application, included in the application (pages 4 and 5) a clear and explicit statement that Skinner (U.S. Patent No. 5,749,484) teaches retrofitting a brush seal on a retractable seal, (e.g., as described by Brandon).

Evaluating the evidence of nonobviousness in its entirety, we find that little weight can be attributed thereto, particularly for the reason that the prior art Skinner patent reveals that it was known in the art to retrofit a brush seal on a retractable seal (as actually acknowledged in the present application), prior to the present invention.

The arguments of appellants in the main (pages 3 through 11) and the reply briefs fail to persuade us that the examiner erred in rejecting claims 1 and 6 as being obvious. While the argument is advanced that it is not straightforward to add a brush seal to a conventional retractable seal (main brief, page 5), the acknowledged prior art teaching of Skinner discussed in the present application (page 3) makes us quite aware that those practicing the art at the time appellants' invention was made had the requisite knowledge, skill, and motivation to add a brush seal to a retractable seal. Appellants' footnote number 2 in the main brief (page 8) acknowledges the Skinner patent but not its teaching of adding a brush seal to a retractable seal. We do not share appellants' point of view (main brief, page 6) that the present claims recite inner and outer faces of the segment and the T-shaped extension thereon that span common opposing ends. Claims 1 and 6 do not specify common opposing ends and simply broadly reference opposing ends, not common opposing ends. As to claim 6, in particular, we find that the tongue and groove recitations are addressed by the Bagepalli disclosure (Figs. 2 and 3). Appellants argue (main brief, page 11) that Bagepalli has "no portion" of the brush extending past a segment side end; in the reply brief (page 5) a similar argument is made. Claim 6



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recites "a tongue extending past the segment side end". Clearly, Bagepalli shows (Fig. 3) what can be fairly characterized as a tongue portion of a brush seal extending past a segment side end 56, 60, keeping in mind, as earlier indicated, that claim 6 does not require common opposing ends.

In summary, this panel of the Board has sustained the rejection of claims 1 through 9 under 35 U.S.C. § 103(a).

The decision of the examiner is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

IRWIN CHARLES COHEN  
Administrative Patent Judge

JEFFREY V. NASE  
Administrative Patent Judge

JENNIFER D. BAHR  
Administrative Patent Judge

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